

REMARKS

By the present amendment, claim 1 has been amended to recite, in the preamble, a method of data analysis for determining a base sequence for nucleic acid, based on detected data of electrophoresis of a fragment sample of nucleic acid, and in step (E), determining the base sequence as to data of M points ($M < N$) of a central portion among data of N points subjected to second or later waveform shaping, so as to be connected with data precedently subjected to the sequence determination. The preamble of claims 2-3 has been amended accordingly. Also, claim 2 has been amended to recite that FFT treatment is applied to at least one of steps (A) or (D). Support for the amendments is found throughout the original application, in particular on page 2, lines 12-14, page 3, lines 3-6, and original claim 1.

Claims 1-3 are pending in the present application. Independent claim 1, and claims 2 and 3 dependent directly or indirectly thereon, are directed to a method of determining a base sequence for nucleic acid.

In the Office Action, claims 1 and 2 are rejected under 35 U.S.C. 112, second paragraph, as indefinite. It is alleged in the Office Action that no active step of electrophoresing a fragment sample is recited in claim 1, and it is unclear in claim 2 whether FFT is applied to step (A) and/or (D).

The preamble of claim 1 has been amended to be directed to a method of analysis of data resulting from electrophoresis of a fragment sample of nucleic acid to determine the base sequence of the nucleic acid on the basis of detected data. Further, claim 2 has been amended to recite that FFT is applied to at least one of step (A) or (D). Accordingly, it is submitted that the rejection should be withdrawn.

Next, in the Office Action, claims 1-3 are rejected under 35 U.S.C. 102(b) as anticipated by US 5,748,491 to Allison et al. (Allison). It is alleged in substance that the PST function of Allison, which is calculated in successive data windows to correct the signal and improve peak resolution, corresponds to the peak interval of the present invention.

The rejection is respectfully traversed. Allison discloses a signal processing method for correcting the signal and improving peak resolution in detail, which is a pretreatment process preceding the sequence determination process. In other words, the teaching in Allison relates to a Fourier transformation process, not to a sequence determination process. Thus, when "all of the signal has been processed" (Allison at col. 2, line 65), no base determination has been provided, as confirmed at col. 7, lines 47-67 and in the Example of Allison.

Further, since Allison does not disclose in details the sequence determination process, a person of ordinary skill in the art would process the whole resulting signal in the conventional manner, which would lead to unsatisfactory data, as discussed in the introduction to the present specification.

In contrast, in the presently claimed invention, the base sequence is determined as to data of P points ($P < N$) from the head of the data of N points, as recited in clause (B) of present claim 1, and as to data of M points ($M < N$) of a central portion among data of N points subjected to second or later waveform shaping, so as to be connected with data precedently subjected to the sequence determination, as recited in clause (E) of present claim 1, and further, a peak interval is obtained each time from the result of that sequence determination, as recited in clause (C) of present claim 1. An advantage of this feature is that the analyzed waveform of base sequence can be readily obtained by simply connecting sequence sequence-determined portions in the sequence

determination step, by connecting non-overlapping sequence-determined portions, as discussed in particular on page 4, lines 1-2 of the present specification. This feature of the presently claimed invention and its advantages are not taught or suggested in Allison, and therefore, the present claims are not anticipated by, and not obvious over, Allison.

In view of the above, it is submitted that the rejection should be withdrawn.

In conclusion, the invention as presently claimed is patentable. It is believed that the claims are in allowable condition and a notice to that effect is earnestly requested.

In the event there is, in the Examiner's opinion, any outstanding issue and such issue may be resolved by means of a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

In the event this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of the response period. Please charge the fee for such extension and any other fees which may be required to our Deposit Account No. 50-2866.

Respectfully submitted,

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